

REMARKS

Claims 1-18 are pending in this application. By this Amendment, claims 15-18 are added.

The features of new claim 15 are disclosed in the specification at page 7, lines 2-3. The features of new claim 16 are disclosed in the specification at page 8, lines 12-18. New claim 17 corresponds to claims 7 and 1, and new claim 18 corresponds to claims 8 and 1.

Applicants appreciate the courtesies extended to Applicants' representative during the May 2 personal interview and the June 1 telephone conference. The substance of the discussions held are incorporated into the amendments and the following remarks and constitute Applicants' record of the interview.

The Office Action rejects claims 1-14 under 35 U.S.C. §103(a) over U.S. Patent No. 4,524,677 to Ashman et al. in view of U.S. Patent No. 5,728,766 to Schauder et al. This rejection is respectfully traversed.

The Office Action recognizes that Ashman does not disclose the claimed seal material. Applicants respectfully disagree with the Office Action's assertion that it would have been obvious to select the material of the seal of Ashman to be carbon black with ethylene propylene rubber, as taught by Schauder. Piston seals do not only require a tight fluid seal for when a piston is not moving, but must maintain a tight fluid seal even when a piston slides. Thus, it is especially useful for a rubber composition to be used as a piston seal.

The ethylene elastomers compounds of Schauder were not developed as piston seals. See, e.g., Schauder at col. 6, lines 30-46. In particular, none of the parts disclosed in Schauder are parts subjected to the environment to which a piston seal is subjected. Nor, do the parts disclosed provide a sliding seal. The embodiments of Schauder only relate to hoses, heat resistant gaskets, and so on. Therefore, Schauder only discloses elastomers compounds used for parts which require good seal, elasticity, and long-heat resistance. Specifically, the

embodiments of Schauder only disclose elastomers compounds which do not relate to a slidable piston. Furthermore, Schauder is silent with regard to and does not recognize the advantages of using elastomers compounds for a slidable piston. Thus, it would not have been obvious to combine the elastomers compounds of Schauder and the piston seal 22 of Ashman.

With respect to new claim 15, neither Ashman or Schauder disclose, wherein 120 to 250 parts by weight of carbon black are added to 100 parts by weight of ethylene propylene rubber in the rubber composition. Instead, Schauder discloses a range of from 65 and including 150 phr, or preferably between 70 and 115 phr. See, e.g., col. 5, lines 53-54. Furthermore, only 110 phr carbon black filler is described as an example.

With respect to claim 16, neither Ashman nor Schauder disclose, "wherein the rubber composition includes no process oils." Instead, Schauder discloses that a large amount of process oil is used for rubber composition. See, e.g., Schauder at col. 6, lines 5-25. However, the process oil which is generally used for a seal, is not used for a disc brake piston seal, as the process oil dissolves in the brake fluid. Accordingly, one of ordinary skill in the art would not have been motivated to use elastomers compounds of Schauder for a disc brake piston seal.

With respect to new claim 17, Schauder does not disclose a piston seal of a disc brake. Instead, Schauder discloses ethylene elastomers compounds used as hose tubes, sealing gaskets, and the like. See, e.g., col. 6, lines 30-46.

With respect to claim 18, neither Schauder nor Ashman disclose a piston that has been moved forward by applying hydraulic pressure is rolled back. Schauder fails to disclose a piston seal for rolling back a piston.

The use of ethylene elastomers compounds in the embodiments of the invention, prevent a decrease in sealing properties due to a change in temperature by reducing the

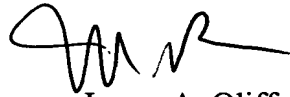
thermal expansion seal caused by an increase temperature. A high modulus of elasticity can be maintained, not only at low temperature, but also at high temperature by reducing the decreased in modulus of elasticity of the piston seal, caused by increase in temperature. This prevents a decrease in sealing properties and follow ability. See, e.g., specification at page 2, line 26-page 3, line 4. Neither Ashman nor Schauder discloses these advantages.

Furthermore, Ashman and Schauder fail to disclose that the piston seal can reproduce a stable amount of roll back over a temperature range from a low temperature region to a high temperature region, as discussed in the specification at page 4, lines 11-13.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:

Petition for Extension of Time

Date: June 9, 2005

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